

REMARKS**BEST AVAILABLE COPY****OVERVIEW**

Claims 1-4, 21-23, 25, 28, 30-31, 38-43, 45-47, 49-50, and 58-66 are pending in this applications. Claims 1, 2, 4, 21, 25, 28, and 58 have been amended. Claims 19, 24, 26, 27, and 57 have been cancelled. Claims 62-66 are new. The present response is an earnest effort to place all claims in proper form for immediate allowance. Reconsideration and passage to issuance is therefore respectfully requested.

ISSUES UNDER 35 U.S.C. § 112

Claims 19 and 57 have been rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the enablement requirement. Claims 19 and 57 have been cancelled, thereby mooted these rejections.

Claim 2 has been rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the Applicant regards as the invention. In particular, the Examiner indicates that in claim 2 it is not clear what is meant by "... pulse characteristics correspond to numbers 0 through 9." Therefore, claim 2 has been amended in a manner to overcome this rejection. Therefore, it is respectfully submitted that this rejection to claim 2 should also be withdrawn.

ISSUES UNDER 35 U.S.C. § 102

Claims 1, 4, 21, 23-24, 27, 38-43, 46-57, and 50 have been rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 4,539,992 to Calfee et al. This rejection is respectfully traversed.

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Claim 1 has been amended to indicate that a plurality of bits is transformed into the same transmission pulse. Claim 4 has been amended to maintain proper antecedent basis. Claim 21 has also been amended to make clear that a single transmission pulse can represent "at least two digital bits of data." Claim 21 has also been amended to specifically indicate that the pulse characteristic is a pulse duration. Claims 24 and 27 have been cancelled.

U.S. Patent No. 4,539,992 to Calfee et al. is directed towards a method and apparatus for communicating with an implanted body function stimulator (Abstract). Calfee discloses at col. 6, lines 14-35, that position modulated pulses may be used. Calfee specifically discloses "a first temporal spacing is selected to represent a '0' and a second temporal spacing is selected to represent a '1'." Thus, Calfee does not disclose that multiple bits are represented by a single pulse. Therefore, this rejection must be withdrawn. In particular note, independent claim 1 now requires "transforming the bits of data into a transmission pulse." Independent claim 21 now requires "receiving at least two digital bits of data . . . transforming the at least two digital bits of data into a transmission pulse." Claim 28 requires "transforming the bits of data into a transmission pulse." Claim 38 requires "transforming the bits of data into a transmission pulse." Independent claim 47 requires "transforming the bits of data into a transmission pulse." Independent claim 58 requires "representing at least two bits of data by varying a pulse characteristic of a time modulated ultrawideband pulse." Thus, all of these claims are distinguished from Calfee. Therefore, this rejection must be withdrawn.

Claims 19 and 57 have been rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,804,471 to Ionov et al. Claims 19 and 57 have also been rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,607,311 to Fishman et al. Claims 19 and 57 have been cancelled, therefore these rejections are moot.

BEST AVAILABLE COPY**ISSUES UNDER 35 U.S.C. § 103**

Claim 2 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 4,539,992 to Calfee et al, in view of U.S. Patent No. 5,245,345 to Kohdaka et al. This rejection is respectfully traversed. Particularly, claim 1 from which claim 2 depends has already been distinguished from Calfee. Kohdaka does not remedy the deficiencies of Calfee. Therefore, this rejection must be withdrawn. Also, it is noted that in making the previous rejection, the Examiner cited to col. 4, lines 19-24 and col. 5, lines 49-61 of Kohdaka. It is respectfully submitted that the Examiner was interpreting these portions of Kohdaka improperly and the Applicant directs the Examiner's attention to Figure 4 of Kohdaka.

Claims 3, 30, 45, and 49 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 4,539,992 to Calfee et al in view of U.S. Patent No. 5,050,189 to Cox. The objections are respectfully traversed. Claim 3 depends from claim 1 which has been amended and is patentably distinctable from Calfee. Cox does not remedy this deficiency. Therefore, this rejection to claim 3 must be withdrawn. Similarly, claim 30 depends from claim 28 which requires "transforming the bit of data into a transmission pulse." As neither reference discloses this limitation of claim 28, from which claim 30 depends, this rejection must also be withdrawn. Similarly, claim 45 depends from claim 38 which also requires "transforming the bits of data into a transmission pulse." Therefore, this rejection to claim 45 must also be withdrawn. Claim 49 depends from claim 47 which also requires "transforming the bits of data into a transmission pulse of electrical energy." Therefore, this rejection to claim 49 must also be withdrawn.

Claims 21-22, 25-26, 28, and 31 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 4,921,468 to Miwa in view of U.S. Patent No. 4,703,471 to

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Fitelson et al or U.S. Patent No. 6,426,813 to Swenson et al. These rejections are respectfully traversed.

U.S. Patent No. 4,921,468 to Miwa is directed towards an optical communication system (Abstract). Claim 21 has been amended to require "receiving at least two digital bits of data from a memory unit" and "transforming the at least two digital bits of data into a transmission." As none of the cited references appear to disclose this limitation, this rejection to claim 21 must be withdrawn. As claims 22 and 25 depend from claim 21, these rejections should also be withdrawn. Claim 26 has been cancelled, thereby mooted this rejection. With respect to claim 28, claim 28 requires "receiving digital bits of data from a memory unit" and "transforming the bits of data into a transmission pulse of light." It is respectfully submitted that neither Miwa, nor Fitelson, nor Swenson disclose that multiple digital bits are transformed into the same transmission pulse of light as required by claim 28. Therefore, this rejection to claim 28 should also be withdrawn. As claim 31 depends from claim 28, this rejection should also be withdrawn.

Claims 58-61 have been rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,700,939 to McCorkle et al. Claim 58 has been amended to require "representing at least two bits of data by varying a pulse characteristic of a time modulated ultrawideband pulse." McCorkle does not disclose this limitation. Note that McCorkle is directed towards a digitally modulated to a digitally modulated signal (base 2) and not a higher base signal.

NEW CLAIMS

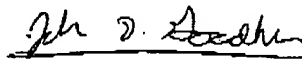
Claims 62-66 are new and do not introduce new matter, which should be clear from the previous claims.

BEST AVAILABLE COPY**CONCLUSION**

No fees or extensions of time are believed to be due in connection with this amendment; however, consider this a request for any extension inadvertently omitted, and charge any additional fees to Deposit Account No. 26-0084.

Reconsideration and allowance is respectfully requested.

Respectfully submitted,



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